U.S. Army Corps of Engineers

Tulsa District Project Update

Construction Begins on Next Phase of Canton Lake Auxiliary Spillway Channel

Reprinted courtesy of *Civil Engineering News*, November 2009

Efforts to upgrade the U.S. Army Corps of Engineers' Canton Dam, near Canton, Oklahoma, reached a critical milestone in August with the completion of two diaphragm walls that will enable construction crews to begin excavating a new auxiliary spillway for the 61-year-old structure. The work is proceeding as part of a safety project estimated at $79 million and begun in recent years to address certain deficiencies found by the Corps in 2001.

Located on the North Canadian River, the Canton Dam consists of an earthen embankment 15,140 feet (4,615 meters) long and a concrete spillway 640 feet (195 meters) long and has a maximum height of 68 feet (21 meters) above the streambed. The spillway has 16 tainter gates and three sluice gates to release flows downstream. Completed in 1948, the dam created Canton Lake for the purposes of flood control, irrigation, and municipal water supply. A section of Highway 58A was constructed atop the dam.

The dam's existing spillway has a capacity of 339,200 cubic feet per

Read more about the construction, page 3

District Commander's Perspective

Colonel Anthony Funkhouser
Commander Tulsa District

Welcome to the February 2010 Tulsa District Project Update, and my last opportunity via this publication to express what an amazing experience it has been to command the Tulsa District. In June of this year, I will relinquish my command to COL Michael Teague, a great friend and outstanding Army leader. I will continue my service to the Army as a District Commander in Afghanistan where I will be responsible for construction in theater.

These are extraordinary times and we have enjoyed historic accomplishments. Due to the American Recovery and Reinvestment Act (ARRA), we have not only created many jobs for this region, but we have positively addressed major infrastructure repairs and improvements that we have had to defer for 20 or more years. Through the end of January 2010, we are scheduled to obligate $63.1 million of civil works contracts out of the $119 million of ARRA funds made available to Tulsa District. We have also awarded $6.9 million of ARRA contracts for Tinker AFB, with $62 million remaining to award for the Army at Fort Sill and McAlester Army Ammunition Plant. All remaining ARRA contracts are scheduled to be awarded by the end of March 2010. It is a true pleasure to visit our water resource projects and military installations and see the positive difference we are making for the public and for the quality of life of our soldiers and airmen.

Our cover story for this issue is the major rehabilitation of Canton Dam in western Oklahoma to address dam safety deficiencies. This project was featured in the magazine of the American Society of Civil Engineers, *Civil Engineering News*, and is reprinted here.

In this issue, we have also featured Tulsa District's support to the six military installations that we are privileged to serve – Fort Sill, McAlester Army Ammunition Plant, and Tinker, Vance, Altus and Sheppard Air Force Bases. Although Tulsa District is most frequently thought of in terms of our civil works mission and the lakes and navigation system that we operate, normally two-thirds to three-fourths of our total annual program is in support of the military installations.

I am also pleased to report on the progress we have made on our "Top 10 Critical Backlog Maintenance Funding Priorities" that we presented in the September 2009 *Project Update*. Thanks to the effective use of funds through the 2009 Operations and Maintenance and Supplemental appropriations and the ARRA, we have made significant progress in reducing the risk at our facilities. While much progress has been made in addressing our backlog of critical maintenance, the infrastructure continues to age and, thus, we will provide our new "Top 15" in this issue.

Enough from my perspective – I hope you enjoy reading about the recent project dedications and other accomplishments in the past six months, as well as the status of each of our active projects. I have promised you transparency in all that we do, and I trust that I have delivered on that promise.

It has been my true pleasure to serve the outstanding men and women of the Tulsa District and our many civil works and military stakeholders.

Essayons and Tulsa Teamwork!

USACE Commander's Vision

A GREAT engineering force of highly disciplined people working with our partners through disciplined thought and action to deliver innovative and sustainable solutions to the Nation's engineering challenges.

Mission:

Provide vital public engineering services in peace and war to strengthen our Nation's security, energize the economy, and reduce risks from disasters.

Commander's Intent:

The U.S. Army Corps of Engineers will become a GREAT organization as evidenced by the following in all mission areas:

- **Delivers Superior Performance;**
- **Sets the standard for our profession;**
- **Makes a positive impact on the Nation and other nations;**
- **Is built to last as evidenced by our strong "bench" - educated, trained, competent, experienced, and certified.**

We will deliver superior performance through disciplined people, thought, and action. We will use the Campaign Plan as a component of our Corporate Strategic Management Process to establish our command priorities, focus our transformation initiatives, measure and guide our progress, and adapt to the needs of the future.

We will align and synchronize our work throughout the Corps and make deliberate and informed corporate decisions on the best use of our resources. If any requirements outside the Campaign Plan arise, we will make a corporate decision to either divert resources or incorporate new objectives and adjust work priorities as necessary.

My intent is for the Corps to be ONE DISCIPLINED TEAM – in thought, word, and action – and to meet our commitments, with and through our partners, by "SAYING WHAT WE WILL DO, AND DOING WHAT WE SAY."

U.S. Army Corps of Engineers ®

Construction begins ... from cover

second (cfs) (9,600 m^3/s). However, in 2001 the Corps district headquartered in Tulsa, Oklahoma, determined that the dam had to be able to accommodate a revised probable maximum flood of 626,000 cfs (17,700 m^3/s) without overtopping and while maintaining its freeboard requirements, says Michelle Lay, the technical manager for the Corps' safety project for Canton Dam. Although the Corps has already implements some measures to reduce the risk of flooding, "they are not long term solutions," Lay says.

Instead, an auxiliary spillway and channel are needed to provide the increased discharge capacity necessary to handle the probable maximum flood. Ultimately, the Corps' intends to construct an auxiliary spillway immediately south of the existing spillway. The auxiliary spillway will include a system of fuse gates that in turn will incorporate a serried of independent chambers designed to overturn in a controlled fashion when a flood of a certain magnitude occurs, releasing water downstream. Construction of the system, which is being designed by Hydroplus, Inc., of Falls Church, Virginia, and of other elements associated with the auxiliary spillway is not scheduled to begin until late 2011.

Until then, the Corps is moving forward on the approximately 2,100-feet-long (640 meters) auxiliary spillway channel that will wrap around the existing spillway before joining the North Canadian River below the dam. Near the upstream end of the auxiliary spillway channel adjacent to the existing spillway, the project includes two 730-foot-long (223 meters) reinforced- concrete diaphragm walls along both sides of the alignment of the future auxiliary spillway. The diaphragm walls were required to reduce the extent of the excavation required for the channel's construction. "Without these walls, the channel would have to be excavated such that appropriate side slopes were maintained," Lay says. "This would have greatly extended the footprint of the channel," she says, and complicated efforts to prepare other areas of the project site for construction.

The diaphragm walls were designed by the Nicholson Construction Company, of Cuddy, Pennsylvania, and its design consultant, GEI Consultants, of Woburn, Massachusetts. In September 2008 the Corps awarded a $41.1 million contract to Nicholson Construction to serve as the prime contractor for the auxiliary spillway channel and related features. The Corps issued the notice to proceed on Oct. 30, 2008, and construction is scheduled to conclude in November 2010, says Paul Krumm, the project manager for Nicholson Construction.

Extending to a depth of approximately 62 feet (19 meters), the 2-feet-thick (0.6 m) diaphragm walls were constructed in sections below the surface in advance of the excavation of the auxiliary spillway channel. During excavation of the new channel, roughly 40 feet (12 meters) of the walls will be exposed, requiring the use of more than 200 tieback anchors to ensure structural stability, Krumm says.

In August, Nicholson Construction began building a 670-feet-long (204 meter) cutoff wall at the downstream end of the diaphragm walls beneath the channel surface. Also designed by Nicholson Construction and GEI Consultants, the cutoff wall will ensure that any erosion of the channel that results from the release of large amounts of water from the fuse gates will not undermine the auxiliary spillway. Comprising a series of 190 reinforced-concrete pier shafts 3 feet (0.9 meters) in diameter, the cutoff wall will extend to depths of more than 60 feet (18 meters). At its top the pier shafts will be connected by a cap beam that also will be anchored, Krumm says.

All told, the diaphragm walls required 6,500 cubic yards (5,000 m^3) of concrete, while the cutoff wall is expected to require 3,500 cubic yards (2,700 m^3). To address logistical concerns, the Dolese Brothers Company, of Oklahoma City, erected a facility on-site for producing concrete, Krumm says. GW2 Engineering, also of Oklahoma City, established a testing laboratory at the construction site to facilitate efforts to ensure proper quality control during placement of the concrete and fill material.

The evacuation of the spillway channel will involve moving nearly 1.6 million cubic yards (1.2 million m^3) of earth, and this material will be used to construct a new berm at the toe of the earthen embankment. The berm will be 200 feet (61 meters) wide, extend 11,200 feet (3,400 meters) in length, and have a maximum height of 25 feet (7.6 meters). Construction of the berm obviated the need to dispose of the excavated material while helping to control foundation seepage and reduce the potential for liquefaction of the foundation as a result of seismic loads, Lay says. Because the new berm will extend the existing toe, a new toe drain system also will have to be installed. Approximately 11,000 feet (3,350 meters) long, 15 feet (4.6 meters) deep, and 7 feet (2.1 meters) wide on average, the drain will include 60,000 tons (54,000 metric tons) of filter sand as well as corrugated and perforated polyvinyl chloride pipe of varying diameter. The Corps's Tulsa District designed the spillway channel, the toe drain, and the toe berm.

As of early October approximately 750,000 cubic yards (574,000 m^3) of material had been moved from the new spillway channel and used to begin construction of the toe berm, Krumm says. Hoskins Construction, of Longdale, Okla., is responsible for the channel excavation and berm construction. Meanwhile, roughly 2,000 feet (610 meters) of toe drain has been installed by DAB Contracting, of Montgomery, Ala. Moretrench, of Rockaway, N.J., is responsible for dewatering on the project.

In September 2010 the Corps plans to award a construction contract for a 540-feet-long (165 meter) highway bridge that will cross the auxiliary spillway. By the time work is completed on the auxiliary spillway, in September 2013, the Corps will have awarded a construction contract for the final portion of the overall dam safety project, that is, the excavation to connect the auxiliary spillway channel to Canton Lake. This effort is scheduled to be completed by September 2015.

–Jay Landers

Tulsa District's Focus on Military Construction

New aircraft ramp at Sheppard AFB

In the closing days of September 2009, the Tulsa District and construction contractor, Duininck Brothers of Roanoke, Texas, completed a $6.35 million contract for a new aircraft ramp at Sheppard Air Force Base. This project was completed

on time and within budget. The Sheppard Air Force Base civil engineer and their major command, the Air Education and Training Command, are very happy to have the additional parking area.

This newly constructed ramp is Phase 1 of a multi-phase effort. The Air Force has inquired on the possibility of further construction in the current fiscal year, as a possible American Recovery and Reinvestment Act (stimulus funded) project. Tulsa District consulted with their division office in Dallas and with other Corps districts to enable the Air Force's desire for a Phase 2 "shovel ready" project by September 30, 2010 (congressional requirement to be in construction -- moving dirt -- by the end of the current government fiscal year).

We have found a way to make that happen using a multi-district approach, partnering with Omaha District and the Corps Transportation Center of Expertise in Omaha, Nebraska.

Corps working to support Vance Air Force Base

At Vance Air Force Base, the Tulsa District is working for the Base Civil Engineer and their major command, the Air Education and Training Command, for the improvement of their facilities for the Airmen. In the current FY10, we're designing and awarding a contract for a new control tower. Their existing control tower dates from 1972 and does not provide sufficient space for the desired equipment needed for a modern airfield control tower. This new construction will double the available space for tower operations to 6,650 square feet. The control tower cab height will be increased from 63 feet to 95 feet above ground level to provide for increased view from the tower cab.

Tulsa District is currently building an Armed Forces Reserve Center at Vance, a large project with a contract amount at $18.8 million. Construction is approximately 35 percent complete and should be completed in December 2010. We're also constructing a fuel system maintenance hanger, an $8.5 million contract that's farther along (75 percent complete) with completion scheduled in April 2010.

Taxiway improvements at Altus AFB

The Tulsa District along with a multi-disciplinary Project Delivery Team including the Altus Air Force Base civil engineer; their major command, the Air Education and Training Command; and Michael Baker, the Corps' contract consulting engineer, has worked diligently to prepare a complete design for the removal and reconstruction of 224,420 square yards (that's 46.5 acres) of airfield pavements. The project is "on the street" now for construction contract award in the month of January 2010. Construction will be completed in June 2011.

We've also awarded a design-build construction contract at Altus AFB for a Digital Approach Surveillance Radar (DASR)--Radar Approach Control (RAPCON) Facility. This was awarded on August 31, 2009, in the amount of $7.166 million. We're currently in the design phase of this design-build construction contract. A groundbreaking ceremony was held January 22, 2010.

Combination of BRAC, MILCON, OMA and stimulus projects makes for record construction program at Fort Sill

Fort Sill and the Tulsa District Corps of Engineers have a current (up to FY10) workload of construction projects that is larger than at any time during the storied history of the Army Post. The program consists of 19 Base Realignment and Closure (BRAC) projects, 11 military construction (MILCON) projects, 17 Operational and Maintenance (OMA) projects, and 15 American Recovery and Reinvestment Act (ARRA) of 2009 projects. Total contract value of all of these projects is over $650 million.

BRAC Projects – 19 contracts with work on 41 facilities (a mix of new construction and renovation -- 27 new and 14 renovated facilities). The BRAC work includes new and renovated facilities for the 6th Brigade Air Defense Artillary (ADA) School and the 31st ADA Brigade (both of these entities are in the process of moving to Fort Sill from Fort Bliss). BRAC also consists of the Training Support Center Warehouse, the Armed Forces Reserve, and the Joint Fires and Effects Training Facility. Total construction square footage of over 1,000,000 square feet.

MILCON Projects – Current ongoing (and soon to be awarded) MILCON projects consist of 11 contracts/projects. 27 new buildings to support missions, capabilities and quality of life. These projects include a child development center, multiple Energy Conservation Investment Program projects, three range projects, two large (2,600-person) dining facilities, seven new 90-person enlisted barracks buildings, a Dental Clinic, two training facilities, and a Warrior Transition Unit complex for wounded warriors.

OMA Program – the FY09 program consists of 17 projects with a total value of over $50 million.

ARRA Program – 15 projects valued at over $54 million.

Tulsa District's
Focus on Military Construction

Tulsa District's
Focus on Military Construction

Unprecedented Workloads

McAlester Army Ammunition Plant

The McAlester Army Ammunition Plant (MCAAP) and the Tulsa District, Corps of Engineers have a workload of construction projects to be awarded in FY10 which is larger than possibly any year since beginning production in 1943. The program consists of three Military Construction (MILCON) projects including one Congressional Insert (CI), one Unspecified Minor Military Construction (UMMCA) CI project, one American Recovery and Reinvestment Act (ARRA) of 2009 MILCON project, one ARRA Sustainability Restoration Maintenance (SRM) project, and one Defense Base Realignment and Closure (BRAC) project with a combined total value of over $32 million.


Armed Forces Reserve Center, McAlester Army Ammunition Plant

AP3 Connecting Rail – FY09 CI MILCON Project consists of 14,630 feet of new rail track. The subbase will be contracted by Tulsa District in second quarter FY10 and the rail, ties and ballast will be constructed by MCAAP in-house personnel.

Inert Munitions Pellet Production Facility - FY09 CI UMMCA project consists of construction of a 7,000-square-feet production facility which will be used to melt and pour small pellets of high explosives that are later mixed with molten explosives to fill bombs and missiles in a nearby facility, as required for the transition from TNT to Inert Munitions. Project is schedule for award in second quarter, FY10.

AP3 (10AT - 20AT) Pads – FY10 MILCON project consisting of enlarging existing magazine pads to accommodate commercial trucks for movement of munitions as required to support Rapid Deployment Forces. Project is planned to be constructed by MCAAP in-house personnel which negates the necessity of emptying the magazines.

Centralized Demilitarization Processing Center - FY10 MILCON project consisting of over 74,000 square feet of warehouse plus a processing facility over 17,000 square feet for use by Defense Logistics Agency as required by the closing of facility at Lone Star Army Ammunition Plant. Project will be awarded in FY10.

Family Housing replacement Construction - FY10 ARRA MILCON project consisting of the construction of six new residences, including the Commander's residence, and demolition of six substandard houses. Project will be awarded in second quarter, FY10.

Electrical Utility Repair - FY10 ARRA SRM project consisting of the replacement of over three miles of electrical distribution lines with associated poles and transformers. Project will be awarded in second quarter, FY10.

Patriot Missile Storage Magazines - FY10 BRAC project consisting of the construction of 10 storage magazines for the patriot missiles which are being relocated from the Red River Munitions Center. Because the project was not authorized until December 2009 and the first magazine was needed in June 2010, a split construction effort was chosen with MCCAP in-house personnel performing the site work including the roads, utility relocations and building pad construction while soliciting the contract for the buildings and foundations. Contract award is scheduled for March 2010 at which time the site work should be nearly complete and will allow for individual igloos to be turned over between June and October 2010.

Tinker Air Force Base

Tulsa District had the privilege of awarding five military construction (MILCON) projects in FY09 for Tinker Air Force Base (AFB) located in Midwest City, Oklahoma. The FY09 awards consisted of one Base Realignment and Closure (BRAC) project, one Congressional Insert (CI), three MILCONs, two American Recovery and Reinvestment Act (ARRA) projects, and $54 million worth of Operational & Maintenance (OMA) projects with a combined total value of over $174 million.

AFR KC-135 Schedule Maintenance Hangar – FY09 MILCON project awarded on June 27, 2009 ($7.68 million) consists of 28,200-square-foot maintenance hangar for the KC-135 aircraft for the Air Force Reserve and Air National Guard. This project also includes the demolition of three existing buildings within the footprint of this new hangar.

Multi-Bay Hangar – FY09 MILCON project awarded August 26, 2009 ($40 million) consists of construction of a 164,760-square-foot high-bay maintenance hangar.

Air Depot Gate Realignment – FY09 CI awarded September 23, 2009, for $4.39 million. This project involves the realignment of Air Depot Boulevard and construction of a new Pass and Identification Facility to better serve Tinker AFB. In addition, the existing canopy will be removed and replaced with a larger canopy. The demolition of the existing facility is also apart of this project.

DLA General Purpose Warehouse - BRAC FY08 project awarded August 29, 2009, for $20 million. This is a single story warehouse (165,000 square feet) designed for a consolidation, containerization, and palletization operation. BRAC law requires completion by September 15, 2011.

Medical/Dental Clinic Replacement – This FY09 MILCON project consists of the construction of a new three-story medical dental clinic with 171,000 square feet. The demolition of the existing clinic is also part of this project.

ARRA Dorm Walls & Power Check Pads – This was Tulsa District's first ARRA award (August 4, 2009) for $5.67 million. This design/build award was for five separate projects, Repairing an East and West Jet Engine Power Check Pad and Repairing Exterior Dorm Walls for Anti-Terrorism Projection on three buildings.

ARRA B230 Replace HVAC & Utilities – FY09 ARRA project awarded September 23, 2009, for $5.27 million. This project consists of the design and construction for the repair/replacement of the chilled water system in Building 230, including two new chillers and a cooling tower and a new electrical and mechanical room.

Distribution System Upgrade

The Department of Energy Pantex Site Office, having determined that the gas main and on-plant gas line distribution system had reached the end of its service life, partnered with the Tulsa District, Corps of Engineers to develop the design and award the construction to replace 130,000 feet of gas line.

The project parameters were to replace the main service line, branch lines, and valves, install new gas meters, and add additional cathodic protection. The final design replaced 70,000 feet of 10-inch gas line, 30,000 feet of 8-inch line, 10,000 feet of 6-inch gas line and 20,000 feet of 3-inch line. Thirty Gas valves were replaced including cathodic protection on all the new valves and eight new gas meters installed including a new turbine meter serving the main steam generation station.

Working at the Pantex Plant includes unique requirements. Each valve, line, and meter required excavation and/or outage permits to be submitted prior to installation or testing of installed materials. Excavation for the line replacement crossed over 100 different utility points from fire protection lines to delicate fiber optic cables which had to be located by hand or by hydro-excavation methods before machine excavation could occur.

Much of the daily activities took place in areas under mandatory escort of workers and materials, which at times was unavailable. Finally, the project proceeded despite working in the record setting wettest August in the Texas Panhandle and beating the cold weather which arrived a bit earlier than normal for the area.

The Corps worked closely with the contractors, BKJ Solutions and MMM Plumbing, to ensure these critical activities were handled according to plant stipulations. These combined efforts resulted in this project completing 90 days ahead of schedule and well under Department of Energy's budget of $4 million.

The original Beneficial Occupancy Date was March 31, 2010; it was moved up to December 31, 2009.

Tulsa District's
Focus on Military Construction

CrossTimbers Resort Holds Ribbon Cutting

CrossTimbers Resort Development on Skiatook Lake took another large development step forward on October 3, 2009, with the official ribbon cutting of two new features, the Harbor Cottages at CrossTimbers and the new Village Road.

On hand to cut the two ribbons were Oklahoma Lieutenant Governor Jari Askins; Corps of Engineers District Commander Colonel Anthony Funkhouser; CrossTimbers Developer, Ron Howell; Osage County Commissioner Scott Hilton; and Skiatook Town Coordinator Martin Tucker.

The Village Road (in the Tallchief area) is the result of successful federal, state and county efforts to assist in the unique public/private comprehensive lake development plan. The new road will serve one of three major "hubs" of lakeside development at Skiatook Lake. The one-way road will be the main arterial entry into the CrossTimbers Village, and will eventually feature lakeside restaurants, shops, cottages, conference center, lodge and nondenominational wedding chapel, along with a major waterfall feature. Another planned development area is the Wilderness at CrossTimbers, which will be a 200-acre-plus camping/RV and "back-to-nature" wilderness area. Already constructed is the Harbor at CrossTimbers, which includes a 450-slip "state-of-the-art" marina, cottages and full service seasonal Lakeside Grill restaurant. All of the areas of the development are connected by a five-mile lakeside nature trail along which ancient trees, some exceeding 400 years, are identified with signage.

Col. Funkhouser, Tulsa District Commander; Marshall Tucker, Skiatook Town Coordinator; Scott Hilton, Osage County Commissioner; Jari Askins, Oklahoma Lieutenant Governor; Ron Howell, Resort Developer, and Dustin Huff, CrossTimers Resort, cut the ribbon at Village Road.

The Harbor Cottages at CrossTimbers allow individuals to own the cottages and have limited use, while allowing public use the remainder of the time.

Skiatook Lake was one of only 32 federal lakes designated nine years ago to participate in the Demonstration Lake program, and has been recognized throughout the Corps as having done the most with this special "public-private" development program. Skiatook Lake was the only Oklahoma Lake originally selected for this program.

Oklahoma Lt. Gov. Jari Askins cuts the ribbon for Harbor Cottages. Assisting, from left, are Marshall Tucker, Col. Funkhouser, Ron Howell, and Scott Hilton.

Texas Water Development Board Visits Red River Chloride Control Project

Dave Mitamura and Ray Russo

On December 8, 2009, staff members from the Texas Water Development Board (TWDB) flew into Wichita Falls, Texas, and then traveled to the Red River Chloride Control Project located in Truscott, Texas. TWDB attendees included Dave Mitamura, Director, Policy Integration and Federal Coordination; Dr. Robert Mace, Deputy Executive Administrator, Water Science and Conservation; Dr. Ruben Solis, Director, Surface Water Resources; Dr. Dan Hardin, Director of Water Resources Planning; David Meesey, special projects for Water Resources Planning; Dr. Mark Wentzel, Instream Flows team lead, and Mary Jo Fear, policy analyst.

Also in attendance were Ray Russo of Southwestern Division and Curtis Campbell, Red River Authority of Texas.

The group met at the Truscott Office where Dennis Duke and Richard Bilinski gave a presentation on the history of the Chloride Control Project. The group was able to view the Bateman Pump station to see the inflatable dam and the operation building for pumping the brine to the pipeline. The TWDB was very impressed with the uniqueness, efficiency, and benefits of the project which is a Select Major Water Strategy in the Texas Water Plan.

Disabled Vets Praise Hunt

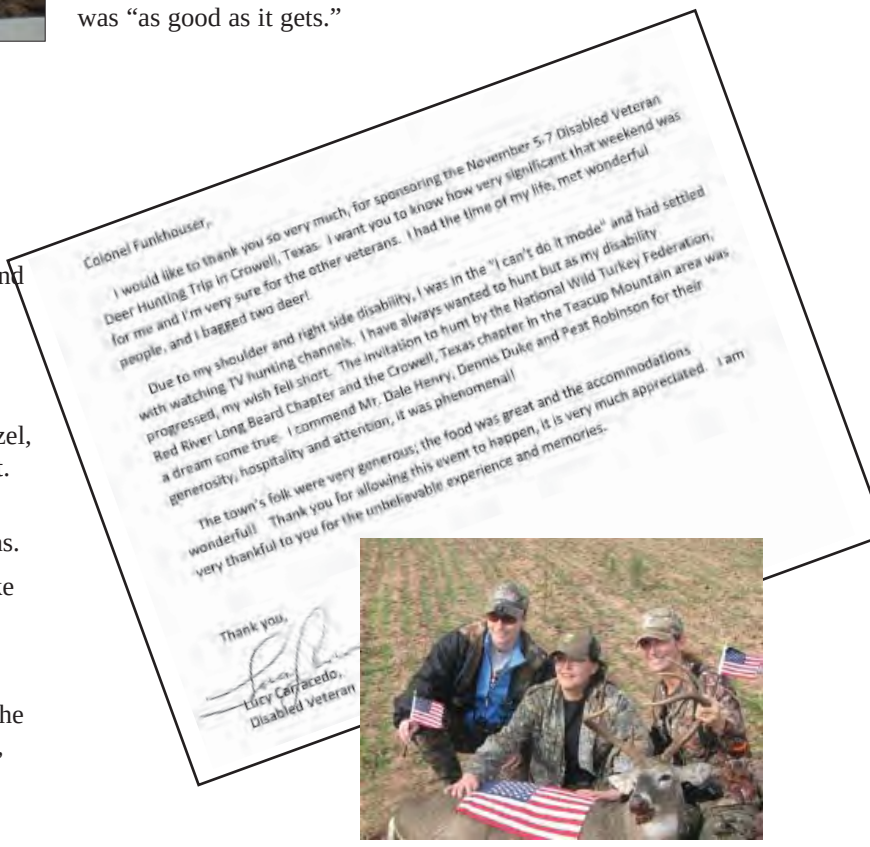
In November, the Pease Rivers Partners, National Wild Turkey Federation, and Wichita Falls Chapter of the Disabled American Veterans (DAV) had a "special" deer hunt on the Crowell Wildlife Management Area. The DAV found disabled veterans with special needs, and all involved arranged for them to enjoy a "dream" weekend on Corps property.

"These vets were indeed special," said Dennis Duke, Chloride Control Area Office project manager. "I cannot begin to tell you how they responded. They had a great hunt. All the work to support them was strictly volunteer. People donated time, money, supplies and food."

"I was not prepared for the reaction. I was also not prepared for the young age of these vets," Duke said. The DAV and sponsors plan to expand this to a truly special national event several times a year. Plans are also underway to do fishing camps for disadvantaged/sick children.

Each veteran commented about how much this hunt meant -- not just the hunt, but the time, camaraderie and the fellowships that were built. "They could not express how much they appreciated the use of this land, this resource, to help them in their healing process," Duke said. One lady, suffering from cancer, could only shoot with a specially prepared 'lead sled' the guys built for her since recoil would shatter her bones. She said this was a lifetime dream come true and compared the excitement to the birth of her firstborn. " There wasn't a dry eye in the house," Duke said.

They praised the way the Corps had developed the food plots, roads, pastures and water resources and said, for them, it was "as good as it gets."



Colonel Funkhouser,

I would like to thank you so very much, for sponsoring the November 5-7 Disabled Veteran Deer Hunting Trip in Crowell, Texas. I want you to know how very significant that weekend was for me and I'm very sure for the other veterans. I had the time of my life, met wonderful people, and I bagged two deer!

Due to my shoulder and right side disability, I was in the "I can't do it mode" and had settled with watching TV hunting channels. I have always wanted to hunt but as my disability progressed, my wish fell short. The invitation to hunt by the National Wild Turkey Federation, Red River Long Beard Chapter and the Crowell, Texas chapter in the Teacup Mountain area was a dream come true. I commend Mr. Dale Henry, Dennis Duke and Peat Robinson for their generosity, hospitality and attention, it was phenomenal!

The town's folk were very generous, the food was great and the accommodations wonderful! Thank you for allowing this event to happen, it is very much appreciated. I am very thankful to you for the unbelievable experience and memories.

Thank you,

Lucy Carracedo,
Disabled Veteran

Cowskin Creek Local Flood Protection Project

West Wichita, Kansas, residential areas in the Cowskin Creek Basin have suffered recurring flooding for years. On September 28, 2009, a dedication ceremony of the Cowskin Creek Local Flood Protection Project was held. This 18-month project included channelization of a portion of Cowskin Creek with construction of a overbank area to divert floodwaters.

Mel Thompson, Sen. Roberts' staffer, and Col. Funkhouser

The Facts:

- Continuing Authorities Sec 205, local flood control project, located on the west side of Wichita along Cowskin Creek.
- The Cowskin Creek Basin drains an area approximately 122 square miles. Over the years, this basin has sustained significant recurring flooding, directly impacting residential areas.
- The November 1998 flood resulted in significant damage to about 200 homes and many businesses, some of which were damaged beyond 50 percent of their value.
- The project consists of creating an overflow channel approximately 300 feet wide on the eastern overbank area of Cowskin Creek between Kellogg Drive and Maple Street for approximately 1,200 feet.

Congressman Tiahrt, Wichita Mayor Carl Brewer, and Col. Anthony Funkhouser

- Total Project Cost - $4.9 million → $2.9 million Federal (60 percent) - $2 million Non-Federal (40 percent).
- September 14, 2007, Construction contract was awarded to a local contractor, Pearson Excavating from Wichita, Kansas. Construction efforts were initiated mid-February 2008 and were substantially complete in August 2009.
- During construction, this project was tested twice by significant flood events and performed in an excellent fashion providing much-needed flood protection..

Chief of Engineers Hosts Division Change of Command Ceremony

Nearly 200 dignitaries, regional partners and stakeholders and employees gathered at Dallas' historic Old Red Courthouse September 3 as Lt. Gen. Robert L. Van Antwerp, Commander and cChief of Engineers, passed the colors to officially name Col. Anthony C. Funkhouser as the Southwestern Division's 34th Commander.

Col. Funkhouser succeeds Brig. Gen. Kendall P. Cox, who now serves as the CJ7, Multi-National Forces-Iraq.

Col. Funkhouser will also continue to serve as Tulsa District Commander, a position he has held since June 2007.

Col. Anthony Funkhouser accepts the colors from Lt. Gen. Robert Van Antwerp, Chief of Engineers. Brig. Gen. Kendall Cox, former commander, is to the right..

Deputy commander returns to his roots

Lt. Col. Eugene Snyman is Tulsa District's new deputy district commander; he joined the district on August 17, 2009.

He was born in Pretoria, South Africa. He was commissioned as a second lieutenant in the U.S. Army Corps of Engineers in 1990 through the University of Kansas Reserve Officer Training Corps with a Bachelor of General Studies degree in English. He also holds a Master of Science degree in Military Studies from the U.S. Army Command and General Staff College.

His military education includes the Engineer Officer Basic and Advanced Courses, the Combined Arms and Staff Service School, and the U.S. Army Command and General Staff College.

Speaking of his assignment to Tulsa District, Lt. Col. Snyman said, "It is a great opportunity to be stationed in my home state. I was fishing and hunting Corps lakes as a kid but I hadn't the slightest clue what that red castle meant. I feel very fortunate to be here and to be a part of the Tulsa Team."

Lt. Col. Snyman's previous assignments include service as: Platoon Leader and Executive Officer in 1st Engineer Battalion (Mechanized) (Desert Shield/Desert Storm); Executive Officer in the 70th Engineer Battalion (Mechanized), Fort Riley, Kan.; Assistant Corps Engineer Plans Officer at 5th Corps, Heidelberg, Germany; Company Commander of 535th Combat Support Equipment Company, Grafenwoehr, Germany (Operation Joint Endeavor); Engineer Planner at 5th US Army, San Antonio, Texas; Assistant Professor of Military Science, Central Michigan University, Mt. Pleasant, Mich.; Maneuver Support Planner, Maneuver Support Battle Lab; Battalion Executive Officer, 5th Engineer Battalion (Corps) (Operation Iraqi Freedom I); Battalion Executive Officer, 35th Engineer Battalion (OSUT), Fort Leonard Wood, Mo.; Professor of Military Science, Illinois State University, Normal, Ill.; and Provincial Reconstruction Team Engineer, USACE Gulf Region North (Operation Iraqi Freedom 5).

Lt. Col. Eugene Snyman
SWT Deputy Commander

Lt. Col. Snyman and his wife, Kathy, have six children ranging in age from 8 to 21.

Water Safety Program

Water Safety at the Wildlife Expo

By Louis Holstead
Water Safety Team Chairperson

The morning of September 25, 2009, dawned clear at the Lazy E Ranch in Guthrie, Oklahoma, but there was an added element of excitement in the air on this day. It was the first day of the fifth annual Oklahoma Department of Wildlife Conservation Wildlife Expo. This event draws a huge group of outdoor enthusiasts who come to enjoy an event totally dedicated to "everything outdoors" from hunting and fishing exhibits to archery and shooting sports to kayaking and outdoor cooking, the Wildlife Expo has it all. A significant amount of the Expo is centered on outdoor recreational opportunities on or around the water, and the U.S. Army Corps of Engineers, Tulsa District, has been fortunate enough to take advantage of the event to contact thousands of individuals for the purpose of water safety education and interpretation.

Kathy Carlson, Canton Lake Manager, was the first to take advantage of this forum and decided to set up a water safety booth at the first annual event back in 2005. "I first heard about the Wildlife Expo from a department employee. At that time, it seemed that the proposed format, venue, and especially the location would present an excellent opportunity for the Corps to gain exposure and share important water safety information with a potentially huge audience from Oklahoma's largest metropolitan area. I shared these thoughts with the Canton Lake ranger staff, and they agreed it would be a good move to set up a booth and participate. The rest is history." stated Ms. Carlson when asked what inspired her to pursue "working" the Wildlife Expo.

Since Canton's first effort, the Corps of Engineers has been involved with the event ever since and has grown the effort annually to keep up with the huge demand. The Corps' water safety booth was front and center inside the Lazy E Arena, along with numerous other booths, that were spread out across the hard-packed dirt floor where you might normally watch professional bull riding or calf roping.

The ODWC has dedicated the first Friday of the event for a "School Day" that hosts around 7,000 kids from all over Oklahoma with around 16,000 visitors attending throughout the opening day. The School Day was pleasantly overwhelming for the Corps of Engineers booth. Our staff of able bodied park rangers and other personnel from lakes across Tulsa District had their hands full distributing water safety quizzes to eager participants who took the quiz in order to receive a "Bobber the Water Safety Dog" tee shirt for making 100 percent on the quiz or any other of many promotional items, all with a water safety message and Corps logo, for just participating. The quiz is a comprehensive water safety review that tests the knowledge of both the kids and adults and really takes some thought and time to totally focus on water safety while participating. The quiz was a culmination of efforts by Tulsa and Kansas City Districts and the Kansas Department of Parks and Wildlife who worked diligently to put together a good cross section of questions that range from the importance of wearing a Personal Floatation Device to avoiding alcohol while on or near the water.

The kids seem to enjoy taking the quiz and remember the experience long afterwards. This, of course, is our desired effect and has become a very successful tool for the Wildlife Expo and all of our high contact events. The water safety quiz, without a doubt, made our booth one of the most popular at the event.

All in all, around 42,000 visitors made their way from booth to booth during the three-day effort. The Corps' one-on-one personal contacts totaled in the thousands, with over 13,000 water safety quizzes being completed. Personal contacts are by far our single biggest effort for getting the water safety message out that is so vital to our visiting public's safety and well being. This effort could not and would not be possible without the ongoing support from our district's upper level managers, Operations project managers, lake managers, and park rangers. Although many of the promotional items utilized were derived from the large Tulsa District order, 13 individual lake offices contributed resources to provide the t-shirts and other promotional items for giveaways.

"Your safety, Our concern"

FY10 Top 15
Tulsa District Funding Priorities

By making prudent use of FY09 supplemental and regular Operations and Maintenance appropriations and American Recovery and Reinvestment Act funding, Tulsa District has been able to successfully address and reduce the backlog of critical maintenance and repair of its water resource infrastructure. However, the facilities continue to age.

The following are Tulsa District's Top 15 FY10 funding priorities for critical maintenance. Critical maintenance are items which, if not performed, could result in failure of the component, resulting in potential loss of the project and the protection of downstream property and population.

As always, public safety will continue to be the primary focus as the District allocates our available resources.

1 Oologah Lake, Oklahoma

Repair & Replace Service Gates, Hoisting Equipment and Low-Flow Systems

Several challenges exist at the Oologah gate tower. The bridge allowing access to the gate tower has cracked corbels that need structural analysis and repair. If the corbels fail, the bridge could collapse and no water releases can be made through the four service gates inside the gate tower structure. All four service gates have lost structural strength and the top one-third of each gate needs to be replaced. One new service gate needs to be constructed and the spare gate will be modified to act as a second emergency gate. (Only one emergency gate exists at the project; it will receive repairs as well). The steel liners, air vents, and gate guides in the conduit below need repair or replacement. The 48-inch low flow valve is inoperable, and needs to be replaced. If the gate and conduit system repairs are not made, a gate failure could occur. This results in loss of service to the navigation system and potentially disrupting water supply to the city of Tulsa and other nearby cities. The 1950s gantry crane at the gate tower installs the emergency gate and removes service gates for maintenance. Currently the gantry crane is unreliable in its electrical operation and may not perform satisfactorily in a flood event. Due to the bridge corbel issues, a mobile crane cannot access the gate tower in the event of an emergency.

Repair Cost Estimate: $1.6 million has been allocated in FY10 to begin the necessary repairs, however, an additional $3.2 million is needed to completely rehabilitate the tower and operating equipment

2 Lake Texoma (Denison Dam), Texas

Replace Service Gates and Seals and Repair Flood Gates

Both the 2002 and 2007 Periodic Inspection reports indicate the service gates leak profusely. The gates are over 50 years old, and accumulative corrosion and cavitation is causing significant damage. This project provides replacement of two service gates; clean, repair and paint four flood gates; and replace upper stationary bronze seals on all flood gate slots.

Accelerated wear and corrosion will result if funding is not provided. Continued deterioration to key structural members and surrounding conduit will result. The gantry crane identified in the FY09 Project Update has been funded through the ARRA program.

Repair Cost Estimate: $4 million

3 Wister Lake, Oklahoma

Repair Discharge Conduit

Wister Dam was constructed in 1947. The discharge conduit has deteriorated to a point that severe leakage is occurring within the wall liner of the conduit. This poses a Dam Safety risk to the structure and the dam embankment. Earthen materials from the adjacent dam embankment could find their way through the cracks, thus creating a larger Dam Safety issue with both the structure and embankment for a potential piping failure. Repair of the liner would add assurance that transport of embankment materials is not occurring through the discharge conduit.

Repair Cost Estimate: $250,000

4 Hugo Lake, Oklahoma

Repair / Modify Floating Bulkhead

The valves in the bulkhead do not seal properly. As a result the bulkhead has sunk to the bottom of Hugo Lake (approximately 60 feet). FY10 funds have been diverted to retrieve the bulkhead and drydock it for inspection. We anticipate the need to replace the entire electrical and mechanical system as well as perform structural repairs to the members before it can be fully used to perform Gate Operability Inspections or work on the tainter gates. Without the bulkhead, there is no way to address any dam safety problems that arise if a gate becomes inoperable, thus placing the flood control mission at risk.

Repair Cost Estimate: $500,000

5 Broken Bow Lake, Oklahoma

Repair / Modify Floating Bulkhead

The use and performance of the bulkhead has become a concern for safe operation. The bulkhead being composed of four different leaves is a great mechanical design, but some changes are required before it can be utilized to full potential. Assembling the gate into the appropriate configuration requires considerable scheduling and coordination. Different lake levels require different configurations. A mobile crane is required to maneuver the leaves during assembly. A temporary crane pad must be constructed by use of a dozer. The pad must be located immediately adjacent to the water's edge in order to provide crane access to the bulkhead leaves. A permanent pad is not feasible due to the ever-changing lake level and a corresponding change of the shoreline. As a result of the difficulties in using the bulkhead, Gate Operational Condition Inspections could not be made on all gates. Modification of the bulkhead is needed to ensure its use during all lake elevations and to reduce the manpower and equipment costs each time it is assembled and used. Severe leakage in the spillway gallery has become a Dam Safety concern; assurance and reliability of the bulkhead to function for a long period of time is required to properly assess and correct this problem.

Repair Cost Estimate: $500,000

6 R.S. Kerr Lake, Oklahoma

Rehabilitate Tainter Gates & Operating Equipment

The 2008 Periodic Inspection as well as the 2009 Annual Inspection Reports indicated that floating debris which passes through the gates continues to cause damage to the gate paint and members. Gates 11 and 12 have bent strut arm braces. Just about every gate has some slightly twisted girder braces, and many of the rib and girder stiffeners are severely rusted and thin. Additionally, the remote controls for the tainter gates have proven unreliable and are no longer used; many of the control inclinometers have been damaged by debris and are unusable. These gates and operating equipment are over 40 years old and need immediate repair to extend their useful life.

Repair Cost Estimate: $9 million

7 Keystone Lake, Oklahoma\

Rehabilitate Cleveland Levee Piping, Sumps, and Drainage

The USACE Dam Safety Screening Portfolio Risk Assessment Team has indicated that the corrugated discharge pipes need to be replaced to ensure that the levee will not fail due to a piping type failure. Additional work is also required in ponding area 4 to ensure proper drainage.

Repair Cost Estimate: $3 million

8 Kaw Lake, Oklahoma

Install Seepage Filter Blanket on Downstream Face of Dam

The 2005 Periodic Inspection indicated that there was a possible seepage issue with the dam embankment. As a result, several pizometers were installed in 2007 which over time have indicated that there is, in fact, seepage in the embankment which fluctuates with the pool level. This situation requires immediate repairs to ensure the safety of the embankment.

Repair Cost Estimate: $1 million

9 Sardis Lake, Oklahoma

Repair and Paint Service Gates

The 2009 Annual Inspection indicated the service gates and liners have several areas of bare metal that require painting as well as areas of structural damage that should be repaired. These repairs are necessary to ensure that the service life of the gates and liners can be met.

Repair Cost Estimate: $800,000

10 Hulah Lake, Oklahoma

Rehab Tainter Gates, Sluice Gate Bulkhead and Debris Removal

The 2009 Periodic Inspection indicated that the tainter gates had critical deficiencies including rusty tainter gate chains, rusty critical areas on the tainter gates, rusty tie-back beams, and shallow spalls in piers and weirs. These gates are over 50 years old and require immediate attention to ensure the gate system does not further deteriorate. If not funded, this will result in increased future costs and the increased probability of structural failure.

Repair Cost Estimate: $6.2 million

11 Skiatook Lake, Oklahoma

Repair & Paint Service Gates and Liners

Severe corrosion and pitting was originally reported on these gates, liners and valves in 2003. This project provides for the repair and painting of two service gates, two emergency gates and a low flow valve; clean, repair and paint two service gates, two emergency gates and the low flow valve and associated metal gate liner plates, frames, air vents, and bonnets. Also rehab Babbitt gate sill on service gates and weld repair and machine the bottom sealing surface of the service gates.

Skiatook Lake makes continuous water releases through the low flow valve to meet water quality standards for the city of Tulsa. In addition to flood waters, these water quality releases have taken their toll on all gates and the low flow valve. Skiatook Lake provided 2 billion gallons of water supply releases in 2008.

Accelerated wear and corrosion will result if funding is not provided. Continued deterioration to key structural members and surrounding conduit will result.

Repair Cost Estimate: $1.1 million

12 Canton Lake, Okla.

Repair & Paint Sluice Gates and Liners

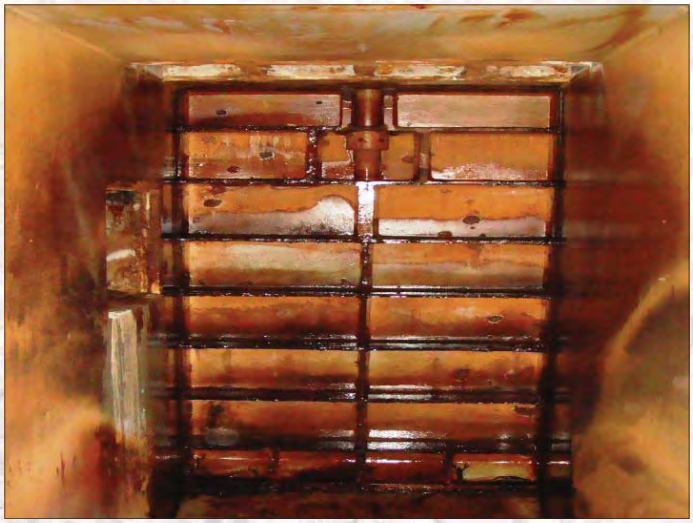
Canton has three service gates and one emergency gate. The 2007 Structural Gate Inspection revealed significant corrosion of the structural members of the service gates. Flanges had laminated corrosion reducing steel thickness by one quarter inch. Air vents and conduit liners were also severely corroded. In addition, gates 2 and 3 have been inoperable for some time resulting in accelerated deterioration of the hoisting cables at the water/air interface.

An ARRA work package has been prepared for construction of a CIP plug in conduit 2. This will allow for the relocation of sluice gate 2 as a second emergency sluice gate. Work will include: removal and rehab of all three service gates and the emergency gate including replacement of deteriorated structural components, painting, and replacement of hoist cables. Air vents and conduit liners will also be repaired and painted. After rehab, gates will be returned to original position except that service gate 2 and associated hoisting equipment will be reinstalled as emergency gate 3. This will require relocating service gate 2 and associated operating equipment to serve as emergency gate 3.

Repair Cost Estimate: $2 million

13 Arcadia Lake, Oklahoma

Repair & Paint Service Gates and Liners



This work item was first identified in 2002 and was recommended to be repaired in the last Periodic Inspection Report. Over time the corrosion and pitting on the gates, liners and low flow valve has continued to increase to the point in the 2009 Annual Inspection Report it was determined to have reached severe limits and will now requires entire cleaning, repair and painting of the service gates, emergency gates, low flow valve, liners, frames and air vents. Repair and painting of two services gates, two emergency gates, liners, frames and vents and the low flow valve will be required.

Arcadia Lake provided 1.8 billion gallons of water supply in 2008 and provides $15.2 million in recreation visitor sales annually to the local community. Loss of regional water supply in the Oklahoma City area would have significant economic impacts.

Accelerated wear and corrosion will result if funding is not provided. Continued deterioration to key structural members and surrounding conduit will result.

Repair Cost Estimate: $1 million

14 Heyburn Lake, Oklahoma

Replace Morning Glory Valves

The 2008 Periodic Inspection Report indicated the three draw-down valves are past their design life and need to be replaced. Repair parts can no longer be obtained. These 36-inch valves are the only means of releasing water below the morning glory inlet at Heyburn Lake. In August 2009 the right draw-down valve was taken out of service due to the valve stem "popping" and it was determined the valve stem or guide may be broken. If the valve were to be opened in this condition, it would not be possible to successfully close the valve. In addition, the left draw-down valve is very hard to operate in the lower third of the close position which may indicate failure is pending for this valve.

This project provides for a contract package to replace all 3 low flow morning glory valves and replace remote greasing system and install new pipe spools in the Morning Glory Valve Room.

Repair Cost Estimate: $530,000

15 Tenkiller Lake, Oklahoma

Rehab Butterfly Valve Seals

Excessive leakage through the two units Butterfly Valves has been a problem since construction was completed in 1953. There is approximately 500 gallons per minute leakage through each of the 180 inch butterfly valve. This leakage has made individual unit clearances difficult for plant employees to gain entry into the turbine scroll case area for inspections. For these inspections, it is necessary to close the valves manually to a point in excess of the normal force that should be required to seat the valve properly, which puts undue stresses on the valve body and gearbox housing.

Repair or replace the stainless steel seals on the two 180 inch butterfly valves. Repair or replace the stationary stainless steel seat ring seals on the valve body. Adjust valve body to allow the butterfly valve to function properly with the seal ring adjusting screws, to allow a minimum amount of leakage and to prevent galling. Condition of Butterfly Valves will continue to deteriorate if funding is not provided. Increased cost of repairs will result.

Repair Cost Estimate: $500,000

Status of FY09 Top 10 Funding Priorities

These are exciting times in Tulsa District. Infrastructure repairs are currently being made on maintenance requirements that have been unattended and worsening for many years. Tulsa District is proud to provide the status on the "Top 10" funding priorities that were presented in the February and September 2009 issues of the *Project Update*. Progress as Promised!

1. W.D. Mayo Lock and Dam 14, Oklahoma

ACTION: Repair Eight Spillway Weirs and Sill Plates

STATUS: ARRA funded contract. Contract scheduled for a March 2010 award.

2. Tenkiller Ferry Lake, Oklahoma

ACTION: Inspect and Perform Repairs on Hoist Equipment Frames

STATUS: This project is included in the Repair Sluice Gates, Liners and Seals project; it is an ARRA funded contract with a scheduled award date of January 2010.

3. Fort Gibson Lake, Oklahoma

ACTION: Rehabilitate and Repair Tainter Gates and Tie-Back Beams

STATUS: This contract was awarded September 2009 using partial ARRA funds. The completion date of the contract is scheduled for July 2012.

4. Oologah Lake, Oklahoma

ACTION: Repair Gate Tower Bridge; Repair Service Gate and Low-Flow Systems, and Repair Gantry Crane Electrical Systems

STATUS: The Gantry Crane Contract was awarded October 2009 using ARRA funds. The Repair Gate Tower Bridge; Repair Service Gates and Low Flow System contract will be partially funded using regular FY10 funds with a scheduled contract award date of August 2010.

5. Keystone Lake, Oklahoma

ACTION: Repair and Paint Sluice Gates and Replace Liners

STATUS: Contract awarded April 2009, completion date is scheduled for July 2010.

6. Tenkiller Ferry Lake, Oklahoma

ACTION: Replace and Repair Sluice Gates, Liners and Seals

STATUS: ARRA funded contract scheduled for award in January 2010

7. Kaw Lake, Oklahoma

ACTION: Repair and Paint Tainter Gates, Hoist Machinery, and Bridge

STATUS: Contract awarded July 2009, completion date is scheduled for June 2010. This contract was partially funded using ARRA funds.

8. Pine Creek Lake, Oklahoma

ACTION: Repair Discharge Conduit and Service Gates

STATUS: ARRA funded contract. Contract scheduled for January 2010 award.

9. John Redmond Reservoir, Kansas

ACTION: Repair Tainter Gates and Replace Seals

STATUS: ARRA funded contract. Contract awarded September 2009, completion date is scheduled for June 2012

10. Lake Texoma (Denison Dam), Texas

ACTION: Replace Service Gates and Seals, Repair Flood Gates, and Rehab Intake Crane

STATUS: Rehab Intake Crane is ARRA funded with a scheduled contract award date of March 2010. Replace Service Gates and Seals, and Repair Flood Gates will be partially funded using regular FY10 funds with a scheduled contract award date of July 2010.

Arkansas River Basin

Arkansas River Arkansas City Aquatic Ecosystem Restoration

Section 206, Water Resources Development Act of 1996, as amended

Feasibility Study, Inactive

The city of Arkansas City is located at the confluence of the Arkansas and Walnut Rivers in southeast Kansas, Cowley County, approximately 122 miles northwest of Tulsa, Okla.

The proposed restoration site is located within the historic floodplain of the Walnut River. The recommended plan would improve various types of wildlife habitat over a total of 122 acres. Borrow pits would be modified to be productive fish habitat. Constructed wetlands would provide habitat to numerous types of wildlife as well as improve water quality. Species diversity and carrying capacity would be restored to bottomland hardwood stands and prairie grasslands in the project area.

By letter dated August 7, 2008, the city of Arkansas City indicated that they would not be able to pursue implementation efforts due to current fiscal constraints and would like the option to reconsider this project in the spring of 2011. The Corps of Engineers placed this project on inactive status and will revisit proposed implementation efforts in 2011.

Arkansas River Corridor

Section 22, Water Resources Development Act of 1974, Public Law 93-251(Planning Assistance to States Program)

Study

The Arkansas River is a valuable water resource that provides opportunities for redevelopment to promote economic development, ecosystem restoration, and other initiatives that would improve the quality of life for many citizens living in the Tulsa metropolitan area as well as visitors to the region.

The Water Resource Development Act of 2007 Section 3132 provided authorization for the Secretary to construct features of the Arkansas River Corridor Master Plan with $50 million in federal funds. Although construction has been authorized, the project must go through economic and environmental justification in a feasibility study.

In 2010, Tulsa District received $90,000 in new start feasibility funds for this project. It is the first new start the district has received since 2003 and indicative of the support this project enjoys both locally and on Capital Hill.

These funds will be used to complete and get approval for a reconnaissance report as well as negotiate a feasibility cost-share agreement. Tulsa County will be the cost-share sponsor for the feasibility study which should begin in 2011 dependant on federal appropriations. Feasibility studies typically last three years.

Tulsa District could use $1 million in FY11 to further develop and screen alternatives, conduct sediment transport analysis, gather more geotechnical data and begin the National Environmental Policy Act process.

In 2009, we completed Phase III of the Arkansas River Corridor Study which focused on engineering and environmental studies. Primary products from this phase include an ecosystem restoration plan, geotechnical studies, recommendation for holistic approach to weir operation, design recommendations and baseline environmental data.

Two low-water dams have been identified as major components of the comprehensive ecosystem restoration plan. They are necessary as hydropower production at Keystone Dam has negatively impacted this riverine ecosystem. Tulsa County was the cost-share sponsor in Phase III.

Augusta Levee Local Flood Protection Project

Section 205 of the Flood Control Act of 1948, as amended (Continuing Authority - Flood Control)

Pre-Construction Engineering & Design

Augusta Levee

Augusta is about 19 miles east of Wichita, Kansas The Whitewater River runs through Augusta to its confluence with the Walnut River.

The original levee was constructed in the 1920s and '30s through private and public sponsorship and was incorporated into the Federal Levee Inspection Program in the 1940s.

The November 1998 flood damages were caused primarily by the Whitewater River breaching of the city's levee system at several locations along the west side of Augusta. The recommended plan is to raise and extend the existing levee to provide a 500-year level of flood protection. On March 3, 2008, the Project Cooperation Agreement for construction of this important project was executed.

FY10 efforts are focused on completion of construction plans and specifications and assisting the city of Augusta in obtaining the necessary rights-of-way for the construction effort. We anticipate award of the construction effort in the fall of 2010.

Blackwell Lake Clearing and Snagging

Section 208 of the 1954 Flood Control Act, as amended by the 1974 Water Resources Development Act

Project Design Analysis Underway

Blackwell Lake is located in Kay County, Oklahoma, near Braman, and is a primary recreational feature in that part of Oklahoma.

Due to the ice storm of 2001, a heavy load of logs and other debris have accumulated upstream of the Lake Blackwell Dam and spillway. The logjam is blocking access to the gate controls of the dam structure and has completely overwhelmed the normal maintenance capacity of the Lake Blackwell Trust Authority. The logjam has also significantly increased the flooding risks of the residential community immediately upstream (approximately 200 homes).

The recommended plan of improvement is to remove the logjam and properly dispose of the accumulated material.

Currently, this project is on hold due to lack of Federal funding. If funding were made available, FY10 activities could focus on execution of the Project Cooperation Agreement and initiating construction efforts.

Canton Lake, Oklahoma (Dam Safety)

Flood Control Act approved June 28, 1938 (Public Law 761); Flood Control Act approved July 24, 1946 (Public Law 526) (irrigation storage); Flood Control Act approved June 30, 1948 (Public Law 858); and the Water Resources Development Act of 1990 (Public Law 101-640) (water supply storage)

Under Construction

This is a $79-million, multi-phase dam safety project with the first phase consisting of a Spillway Stabilization Construction Project in which 64 anchors were installed into the spillway to correct stability deficiencies. The first phase contract was performed for $4.5 million and was completed in October 2006.

In FY07, a slurry trench contract was awarded in September 2007 for $1.4 million to construct a water barrier between the lake and the new location of the auxiliary spillway. FY08 activities included awarding a $3.1 million contract for the relocation of Highway 58A, a $900,000 design/construct contract for reconfiguring the current project office, and the award of a $41.1 million continuing contract for the first phase of the auxiliary channel excavation.

FY09 activities included the continued execution of the auxiliary channel excavation contract as well as the design of the weir and control wet well structure. The channel excavation contract will consist of the excavation of the new auxiliary channel (1.5 million cubic yards), construction of concrete diaphragm walls and aprons, channel rip rap, groundwater control, channel cut-off wall, new piezometers and extension of the current relief wells. As a secondary benefit of the contract, the excavated channel material will be placed at the toe of the existing earth embankment to mitigate seepage under the existing embankment.

Scheduled FY10 activities include completion of the first phase of the auxiliary channel excavation and the award of the new highway bridge over the auxiliary spillway channel. In addition, the design of the weir, fuse gates, and control wet well will be completed.

Grand (Neosho) River Wetlands and Bottomland Hardwoods Ecosystem Restoration, Oklahoma

Section 206 of Water Resources Development Act of 1996, as amended (Continuing Authority -- Aquatic Ecosystem Restoration)

Planning, Inactive

This ecosystem restoration project will focus on wetland bottomland hardwood habitat restoration along the Neosho River upstream of Miami, Okla.

Project features could include outdoor classrooms and multi-purpose maintenance trails that provide public access for nature-related recreation.

In December 2006, the Natural Resources Conservation Service at Stillwater completed a preliminary assessment report detailing possible improvements that could be accomplished. In 2007, due to lack of federal funding, study efforts were placed on hold.

In July 2009, additional federal funding was received to allow resumption of feasibility study efforts. On October 23, 2009, the Oklahoma Department of Wildlife Conservation indicated that they were no longer interested in sponsorship of the feasibility study effort, and this project was placed on inactive status until a new cost sharing partner is identified.

Grand Lake Comprehensive Study

Section 449 of the Water Resources Development Act of 2000

Study

Grand Lake became operational in 1941, and its purposes include hydroelectric power (operated by the Grand River Dam Authority, an agency of the State of Oklahoma) and flood risk reduction (directed by the Corps). Grand Lake is located in the Grand (Neosho) River Basin (a sub-basin of the Arkansas River Basin) and is an integral component of a system flood control operation consisting of 11 principal reservoir projects in the Arkansas River Basin. The system operation of the 11 reservoirs also benefits the McClellan-Kerr Arkansas River Navigation System.

Grand Lake was designed and constructed by the Grand River Dam Authority and initially had a single purpose of hydropower production. In order to include Grand Lake as part of a comprehensive multi-purpose plan for the Arkansas River, the Flood Control Act of 1941 authorized the Corps to manage the flood risk reduction features. The flood risk reduction pool limits were established from elevation 745 to 755 (Pensacola datum). Flowage easements were acquired up to elevation 750 by the State of Oklahoma. Other federal agencies acquired flowage easements from elevation 750 ranging up to 760. The administrative jurisdiction of the flood risk reduction flowage easements were transferred to the Corps in October 1959.

In response to public concerns, congress established Section 560 of the Water Resources Development Act of 1996 which authorized the Corps to conduct a study that considered the combined operating purposes of flood control and hydropower. The September 1998 Grand Lake, Oklahoma, Real Estate Adequacy Study report documents that areas were found around the lake where, using current criteria and based on current lake operations, additional flowage easements would be recommended if Grand Lake were a "new" Corps project.

A letter report was prepared by the Tulsa District Corps to document an initial technical evaluation of historical and theoretical flood events. Based on review of the letter report, the Assistant Secretary of the Army for Civil Works concurred on September 14, 2007, that further detailed study is warranted. With that decision and in accordance with the provisions of Section 449 of the Water Resources Development Act of 2000, the feasibility study could be conducted at full federal cost.

FY08 and '09 activities included the preparation of a Hydrology and Hydraulics Geographical Information System Needs Assessment Report, meetings with city of Miami officials, and development of a draft Project Management Plan (PMP). FY10 activities include finalizing the initial PMP (PMPs are updated as new information becomes available) and beginning the formulation of alternative solutions. To the extent possible, data collection in 2010 will be prioritized to also help Ottawa County and the city of Miami, Oklahoma, in making short-term floodplain management decisions.

Grand/Neosho Ecosystem Restoration Study (John Redmond Feasibility Study)

Section 208, Flood Control Act of 1956

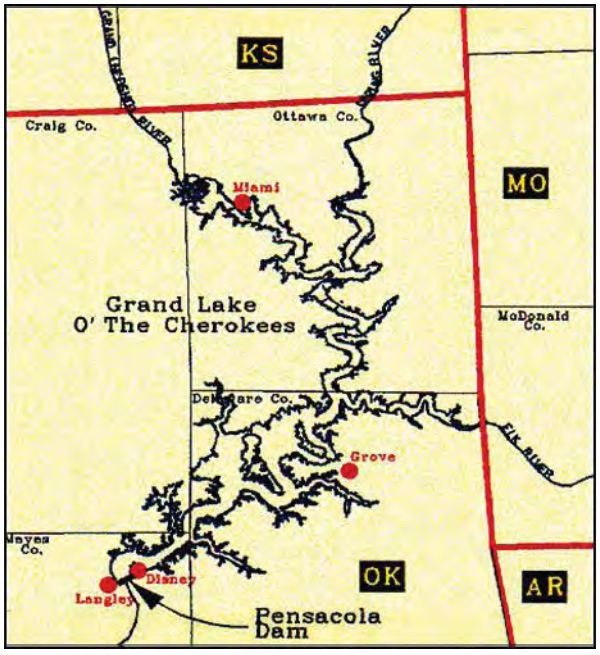
Study

The study area consists of the 12,500 square-mile Grand/Neosho River Basin in northeastern Oklahoma and southeastern Kansas. Flooding around Grand Lake, sedimentation problems in John Redmond Reservoir, and the 1,800 square miles of uncontrolled drainage areas have increased the need for a basin-wide study to address flooding; floodplain management problems and opportunities; and ecosystem improvements associated with aquatic habitats, wetlands, and watershed corridors.

A feasibility cost-share agreement was executed with the Kansas Water Office in September 2006 for the John Redmond Reservoir Study and updated in 2008 to increase study scope and cost. Kansas Water Office requested a more detailed analysis of all alternatives rather than the preliminary screening process more typical of a feasibility study. This interim study focuses on the ecosystem degradation that has occurred in John Redmond Reservoir. This degradation is largely a result of sedimentation and nutrient loading. Other local issues such as the logjam and an assessment of dredging as an alternative are included in the multi-year study.

In 2008 the study team focused on monitoring gauges, conducting watershed modeling, extrapolating data from sediment studies for flood pool estimates, and alternatives analysis. We also submitted a feasibility scoping meeting package to Corps headquarters. This is a major milestone to gain policy review and concurrence on alternatives and evaluation measures.

In 2009 the District completed an alternative analysis at which time it became evident that federal project implementation was not economically justified. The district recommended the study shift to complete a collaborative watershed management plan. The KWO has expressed an interest in this and is considering the option.



Joe Creek Ecosystem Restoration Project, Tulsa, Oklahoma

Section 1135, Water Resources Development Act of 1986 (Continuing Authority -- Habitat Restoration)

Feasibility Study

Joe Creek is a tributary to the Arkansas River at Tulsa, Oklahoma. The Joe Creek Local Protection Project was constructed under the authority of Section 205 of the 1948 Flood Control Act. A majority of the improved channel is concrete lined.

The proposed project will focus on improvements to the riparian stream corridor habitat that was impaired when the original flood control project was constructed.

Detailed feasibility study efforts were completed in August 2008. FY10 activities are focused on completion of construction plans and specifications. Award of the construction effort is currently anticipated for June 2010 .

John Redmond Reservoir Reallocation Study

Study

The study and subsequent report are being done in response to Congressional Senate Report 106-58 to study raising the conservation pool at John Redmond Dam and Reservoir to meet the terms of two existing water supply agreements with the state of Kansas. Water storage has been steadily depleted by uneven sediment deposition such that there is infringement on state of Kansas water supply agreements.

Based on the evaluation of several alternatives, the preferred alternative is to increase the top of the conservation pool elevation from 1039 feet National Geodetic Vertical Datum (NGVD) to 1041 feet NGVD to meet current water supply agreements and water quality demands.

Corps headquarters reviewed and provided comments on a draft final report in 2008. The Corps determined that because water supply is the primary reason for the reallocation, all replacement costs will be paid by the beneficiary -- the Kansas Water Office (KWO). The KWO asked the district to hold the report rather than send it for approval with the recommendation that they pay all replacement costs. The district has held the report since November 2008 and, during that time, encountered another obstacle. Since Hurricane Katrina, the Corps has increased focus on dam and levee safety. A national team has been inspecting structures and found risks at Hartford Levee which is part of Redmond Reservoir. Because of the risks, the pool cannot be raised until corrections are implemented. There are two more studies, each more detailed, that must be completed to identify and construct corrective measures. Timeframe for completion of corrective measures may be as far out as 2014. The limiting factor for completing these actions is not federal funding but the schedule of the national team completing the actions. This team is focused on structures in the highest risk category, and Hartford levee is not one.

One positive aspect of our effort on this study is that several of the replacement actions identified as KWO actions are occurring on Corps-owned property. This land is leased to the U.S. Fish and Wildlife Service (USFWS). Because of this, the district has been able to partner with KWO and USFWS to complete partial replacement of wetlands and bottomland hardwoods.

Lawton Wastewater Infrastructure

Section 219(f)(40), Water Resources Development Act of 1992 as amended

Pre-Construction Engineering & Design

The project consists of constructing wastewater infrastructure for the city of Lawton, Okla. Lawton is located approximately 100 miles southwest of Oklahoma City in Comanche County.

The city is conducting a 20-year, three-phase, $63 million sewer rehabilitation program in response to a consent order from the Oklahoma Department of Environmental Quality. The program involves total replacement of sewer pipelines and upgrading of other components. The services provided by the city's infrastructure include off-base housing for the Army at Fort Sill. The Corps participation in the overall project will be approximately $2.5 million.

The city provided the preliminary construction plans and specifications to the Corps in May 2009. The Corps will make these documents ready to advertise, advertise and award a construction contract, and thereafter, conduct all contracting and construction administration services.

In FY08, the Project Cooperation Agreement was signed. Sponsor has completed real estate acquisition, and the project is scheduled for construction contract award in April 2010.

In FY09, funds in the amount of $615,000 were made available to the project through the ARRA. These funds will be applied to the construction contract, which will be awarded in April 2010.

McClellan-Kerr Arkansas River Navigation System, Arkansas & Oklahoma, 12-Foot Navigation Channel

Section 136, Energy and Water Development Appropriations Act, FY04 (Public Law 108-137)

Authorized (Not Started)

The McClellan-Kerr Arkansas River Navigation System is approximately 445 miles long, consists of 18 locks and dams, and provides 9-foot-deep inland navigation from the Mississippi River to Catoosa, Oklahoma.

This project will deepen the navigation channel to a minimum depth of 12 feet, thereby increasing the efficiency of the system. Deepening of the channel will be performed by a combination of techniques including altering the flow management, constructing dikes and jetties and dredging the channel. This project also includes a significant environmental component to include creation of bottomland hardwood forests and

high quality wetlands as well as other environmental enhancements.

This project has a projected cost estimate of $185.5 million, is cost shared with the Inland Waterway Trust Fund, and is jointly managed by both Little Rock and Tulsa Districts. To date, $7 million was provided through a FY05 congressional add to complete the feasibility study and the Environmental Impact Statement as well as to start dredging activities and construction of dikes and jetties.

During FY06, dredging commenced and was completed at mile 348 in Pool 15 in Oklahoma as well as commencing construction of training structures in Pools 2 and 7 in Arkansas. Construction of a Least Tern Island with rock protection was also accomplished in conjunction with the dredging activities in Pool 15. Design of river structures was accomplished for Pools 2, 7 and 5. Mitigation activities including aquatic and terrestrial surveys were performed in both Oklahoma and Arkansas. A five-year plan was also developed for the project that includes an integrated project breakdown of activities and associated costs that has been vetted through the navigation stakeholders.

This project was not included in the FY08 and '09 budgets. However, FY06 carryover funds were used to place stone structures to improve self scour in Arkansas, continue the design of upland dredge disposal sites, and continue real estate efforts in Oklahoma.

This project was not included in the FY10 budget. Funds have been exhausted resulting in no further work ongoing on the project.

Oklahoma Comprehensive Water Plan

Study

We are providing technical planning assistance, through the Planning Assistance to State authority, to the Oklahoma Water Resources Board for an update of the Oklahoma Comprehensive Water Plan (OCWP).

In FY09, we completed assessments of water demand and of ground and surface water supplies. The results of these two assessments were compared to define gaps where supply is inadequate.

In FY08, we developed a programmatic work plan and developed and distributed an infrastructure survey for municipalities and rural water districts and a pilot GIS project. Coinciding with these integrated efforts was an extensive public participation program to create a transparent and open planning process. Contingent on approvals and future funding, it is anticipated that information from Southeast Oklahoma and Washita Watershed Management Plans will be integrated into the OCWP.

The entire process has three phases. Currently, the Corps is authorized to participate only in the studies.

The first phase of the OCWP update will focus on development of water demand projections by county and region throughout forecast year 2060 as well as a comprehensive inventory and analysis of the state's water supplies.

Phase two of the updated water plan will identify local and regional problems and opportunities related to the use of water for public supply, agricultural, industrial, recreational, and environmental uses. This particular segment of the planning process, involving close partnerships with both municipal and rural water system representatives, will identify infrastructure needs, management options, and other measures to maximize the efficiency of Oklahoma's public water suppliers.

The third phase of the state water planning process involves the implementation of planning initiatives and tools derived from the issues, problems and needs identified during phase two. The Oklahoma Water Resources Board is drawing upon the expertise of Oklahoma's foremost water experts from various water use sectors, local, state and federal governments, and universities to develop policy recommendations for consideration by the state legislature.

The Water Resources Development Act of 2007 authorizes the expenditure of $6.5 million in federal funds for completion of the Oklahoma Comprehensive Water Plan. It further specifies that this effort will be completed with a 75 percent federal and 25 percent non-federal cost share. Implementation Guidance is at Corps Headquarters for review, after which, it will be submitted to the Assistant Secretary of Army for Civil Works for approval. Upon completion of this action, the Congress may appropriate federal funds for this effort.

Oologah Lake Watershed Feasibility Study, Oklahoma and Kansas

Section 206, Flood Control Act 1958; Resolution adopted on May 25, 1960 by the House Committee on Public Works

Study

The Verdigris River Basin drainage area is approximately 4,300 square miles and is located in southeastern Kansas and northeastern Oklahoma. This basin is impounded to form Oologah Lake.

The study will result in a watershed management plan with identified measures to reduce impacts of upstream activity on aquatic and terrestrial habitat within the basin. Upstream development has adversely affected water quality at Oologah Lake which is a water supply source for the city of Tulsa.

In 2008, funds were used to complete the institutional analysis appendixes to the watershed management plan and the first draft of the plan. Multi-state and local meetings were a major effort in 2008. Data gathering and modeling will continue throughout the study at the request of the sponsor.

In 2010, the first draft of the watershed management plan will be released. This study is truly collaborative between two states and multiple agencies.

Dependent on federal funding, the district will complete the Comprehensive Watershed Management Plan this year.

Spavinaw Lake Watershed Feasibility Study

Section 208, Flood Control Act of 1965 (Public Law 89-298)

Study

Spavinaw Creek and its downstream impoundments, Eucha and Spavinaw Lakes, are severely impacted by nutrient loading and excessive algae growth as a result of agricultural practices in Arkansas and Oklahoma. Degradation of water quality has led to taste and odor problems, increased treatment costs, and the lakes' decreased recreational and aesthetic value. Together, Spavinaw and Eucha Lakes provide 47 percent of the water supply for the Tulsa metropolitan area. The Tulsa Metropolitan Utility Authority entered into the feasibility cost-share agreement in June 2004.

Because of extensive ecosystem restoration work being done by the poultry industry in the watershed, this study is focused on in-lake solutions.

In FY08, the alternative analysis and selection was completed.

In 2009, we completed cost estimates which identified project implementation could be done through the Continuing Authorities Program. This means the reports do not have to go to Corps Headquarters and Congress for approval.

In 2010, dependant on federal funds, we expect to complete plans and specifications for construction.

Webbers Falls Powerhouse Major Rehabilitation, Oklahoma

River & Harbor Act, approved July 24, 1946; Project Document HD 758, 79th Congress, 2d Session

Under Construction

The run-of-river power plant contains three 23,000-kilowatt, inclined-axis, Kaplan-type generating units with a total rated generating capacity of 60,000 kilowatts. These turbines were the first tube turbines of this magnitude ever built and placed in operation. As a result, the design did not consider all of the factors specific to the operation of slant-axis turbines and, consequently, the project has been plagued with mechanical reliability problems during its operation. Currently, one turbine is non-operational; the two remaining units will continue to fail regularly until they can no longer generate power. The major rehabilitation project will replace all three turbines resulting in $1.32 million offset benefits per month to the nation. In addition to rehabbing the turbines, the cranes will be rehabbed, the generators will be rewound, and turbine governors will be upgraded which will increase the capacity of the plant by 8.5 percent.

In February 2001, the Corps of Engineers Hydroelectric Design Center recommended that the Ozark and Webbers Falls turbine replacements be combined into one contract for a savings of over $5 million to the government and power customers. The Webbers Falls Turbine Replacement contract was subsequently included in the Ozark contract as an option and awarded May 3, 2005.

The Webbers Falls Powerhouse Rehabilitation project's current cost is $72.7 million with a scheduled completion date of January 2013.

FY08 activities included the award of the three turbine runners for $39.1 million as well as the turbine and generator bay bridge crane rehabilitation contracts for $2.3 million, all funded by customer funding sub agreements. Specific 2008 activities included the fabrication of the turbine runner, stub shaft, and wicket gate assembly for the first unit.

FY09 activities included completion of the bridge crane contracts as well as disassembly of the turbine runner and wicket gate assembly for unit 3.

Scheduled FY10 activities include reassembly of unit 3 as well as initiating a contract to rewind all three generators.

Red River Basin

Bowie County Levee

Energy and Water Development Appropriation Act of 2001 and 2002

Pre-Construction Engineering & Design

The Bowie County Levee is located near Texarkana, Texas, in Bowie County, Texas. The existing levee is 8.8 miles long and was built in 1913. The locally preferred plan, known as Alternative B, is the plan which will be constructed. This plan consists of restoring six miles of existing levee, constructing four miles of new levee, and constructing 1.4 miles of channel to divert Barkman Creek flows to the Red River.

In FY09, the Regional Variance, which allows vegetation to remain on the river side of the levee, was revised and approved by the Corps and the sponsor. Additionally, revisions to the mitigation plan were requested by the sponsor. These revisions are under evaluation to determine the impact to the mitigation plan and the Environmental Assessment(EA).

The district has been directed to submit a Post Authorization Change Report (PACR) to the division commander for approval. This PACR will serve as the decision document which is the basis for the Project Partnership Agreement (PPA) for the project. The PACR will be submitted late in the third quarter of FY10 following the publication of the revised EA. Approval should follow during the fourth quarter.

The PPA should be submitted within six months of approval of the PACR. This submittal is estimated to occur around March 2011 with approval scheduled for the second quarter of FY12. Approval of the PPA will clear the way for the sponsor to begin real estate acquisition during FY12 and complete in FY13. Upon completion of the real estate acquisition, a construction contract can be awarded and construction can begin.

Denison Land Conveyance (WRDA 2007)

Water Resources Development Act of 2007 Section 3182 (j) and (k)

Conveyance of Land at Lake Texoma, Texas

The Water Resources Development Act of 2007 authorized the secretary of the army to convey to the city of Denison up to 900 acres of land at Lake Texoma, which were included in a 2005 lease application. The conveyance is to be at fair market value and is subject to completion of NEPA documentation and other real estate requirements such as survey and appraisal. All costs are to be funded by the City.

A Notice of Intent to prepare an Environmental Impact Statement (EIS) was published in the Federal Register on August 6, 2008. A public workshop for Environmental Impact Statement scoping was held on September 11, 2008. Public comments were accepted and summarized in a scoping report, which is posted to the Tulsa District website.

Seasonal data collection for the EIS began in the summer 2009. The first increment funding payment was submitted in behalf of the City to contract for the draft EIS. Contract award is pending. It is estimated the EIS will take approximately 21 months to complete once the remaining funds are remitted and the Corps contract is awarded.

Kemp Lake Reallocation Study

Water Resources Development Act of 1986

Study

Lake Kemp is located on the Wichita River at river mile 126.7 in Baylor County, Texas. Lake Kemp was originally constructed in 1924 by the Wichita County Water Improvement District #1. The lake was constructed for the primary purposes of irrigation, water supply, and related uses.

The reallocation study is being conducted with the Texas Water Development Board (TWDB) in conjunction with the Wichita County Water Improvement District #2 and the city of Wichita Falls.

The district awarded a contract to conduct flood plain inventory and finished hydraulics and hydrology work to include the probable maximum flood modeling and yield analysis. We also completed preliminary geotech studies.

In 2010, TWDB and the Corps have focused on reconciling the two models used to calculate firm yield but have found no resolution to the difference. The study team is considering other options.

The project is operated and maintained by the Wichita County Water Improvement District #2 and the city of Wichita Falls, Texas.

During the design and reconstruction of Lake Kemp, sedimentation was a key consideration. Design Memorandum No. 1 recommended raising the conservation pool after 40 years of operation to recover conservation storage lost to sedimentation. The latest sedimentation survey performed at Lake Kemp was in 1973, and it indicated an expected high level of sedimentation. In recent years during drought conditions, the upper portions of Lake Kemp appear severely impacted by sedimentation.

Red River Basin Chloride Control Project

This project was authorized for construction by the Flood Control Act of 1966, approved November 7, 1966, Public Law 89-789, SD 110; as modified by the Flood Control Act approved December 31, 1970, Public Law 91-611; and as amended by the Water

Resources Development Acts of 1974 and 1976. The Water Resources Development Act of 1986, Public Law 99-662, amended the above authorization to separate the overall project into the Arkansas River Basin and the Red River Basin and authorized the Red River Basin for construction subject to a favorable report by a review panel on the performance of Area VIII. Section 3136 of the Water Resources Development Act of 2007 reaffirmed that operation and maintenance responsibilities would be at full Federal expense.

Under Construction

The Red River Chloride Control Project is authorized to identify and implement measures to reduce naturally occurring brine emissions into several sub-basins within the Red River Basin in northern Texas and southern Oklahoma. The project's primary purpose is to improve water quality for municipal, industrial, and agricultural uses along the Red River within Oklahoma, Texas, Arkansas and Louisiana.

Improvements include construction of low-flow dams, pump stations, and diversion pipelines to impoundment facilities.

This project is a select major water strategy of the 2007 Texas Water Plan for the region and the state of Oklahoma has expressed a renewed interest in the Area VI element of the Red River project and reevaluation efforts are underway. Area VI is located on the Elm Fork of the North Fork of the Red River in Harmon County, Oklahoma.

Portions of the Wichita River Basin Chloride Control element, located in northwest Texas, have been constructed and have been in operation since 1987. Features completed and in operation include two low-flow collection dams, a pump station and diversion pipeline to the Truscott Brine Disposal Reservoir.

In 2003, construction efforts had been placed on hold until a cost-sharing partner was identified to assume the operation and maintenance responsibilities. However, passage of Section 3136 of the Water Resources Development Act of 2007 reaffirmed that operation and maintenance responsibilities would be at full Federal expense.

Land acquisition efforts for the remaining right of way at Area X are underway, and construction efforts resumed in January 2010.

Reevaluation efforts continue for Area VI within the Elm Fork Basin in Oklahoma. In addition, detailed baseline environmental monitoring activities are continuing.

Southeast Oklahoma Water Resource Study

1983 Supplemental Appropriation Act (PL 98-63)

Study

This study has been reinitiated to support the Oklahoma Comprehensive Water Plan (OCWP). The Oklahoma Water Resources Board is the sponsor. This is one of three studies that will result in development of watershed management plans. These plans will be integrated into the OCWP.

In 2008, study focus was on infrastructure assessment, a water demand study, and a GIS pilot program.

In 2009, the water demand study was completed and an assessment of the existing water supply sources began. An analysis of gaps in the sources of water will be used to identify strategies to address future needs.

In 2010, GIS mapping of infrastructure will continue and evaluation of funding/financing programs.

This study is scheduled to complete in 2012.

Texoma Reallocation Study

Water Resources Development Act of 1986

Study

The Water Resources Development Act of 1986 authorized the Assistant Secretary of the Army for Civil Works (ASA-CW) to reallocate 300,000 acre-feet of storage from hydropower to water supply storage at Lake Texoma. The law specified that 150,000 acre-feet of storage would go to Texas and Oklahoma with 50,000 acre-feet of the Texas total going to the Greater Texoma Utility Authority. The North Texas Municipal Water District has expressed an interest in the remaining Texas storage.

The Reallocation Report recommends the reallocation of 300,000 acre-feet from hydropower to water supply. Water supply agreements for 150,000 acre-feet and a Supplemental Environmental Assessment were sent with the report for review. In August 2009, the office of the ASA-CW decided that while the district recommendation was consistent with Corps policy, it did not follow the intent of the WRDA 1986 legislation. Corps HQ hass coordinated with the ASA-CW office to develop guidance that the district used to make changes to the report. Signing of the reallocation report and water supply agreements, as well as hydropower compensation methodology, is expected in July 2010

Washita Feasibility Study

Red River and Tributaries above Denison Dam, Texas, Oklahoma, and New Mexico, House Resolution dated February 25, 1938; Senate Resolutions dated February 18, 1954 and June 19, 1962

Study

The Washita River is a tributary to the Red River in Oklahoma and flows into Lake Texoma.

The Oklahoma Water Resources Board signed the feasibility cost-share agreement in June of 2008. It was fully executed by the Commander in July 2008. This study is one of three that is being integrated into the Oklahoma Comprehensive Water Plan.

In 2009, we completed an infrastructure assessment, a detailed water demand assessment and began gap analysis where future supply does not meet demand.

In 2010, funds could be used to support continued GIS mapping of infrastructure and an evaluation of in-stream management.

This study is scheduled for completion in 2012.

WELCOME
NEWSLETTERS
TULSA CONTACTS
LOCAL CONTACT NUMBERS
FREEDOM OF INFORMATION
NEWS RELEASES
PUBLIC MEETINGS
PUBLIC NOTICES
PUBLIC COMMENTS WANTED
CIVIL WORKS BOUNDARY MAP
LAKE & RIVER INFORMATION
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INFORMATION
AGRICULTURE & GRAZING LEASES
CONTRACTING
LIBRARY - Documents
LIBRARY - Images
Digital Visual Library
Corps of Engineers
photo collection
NAVIGATION
PEER REVIEW DECISION DOCUMENTS
PROJECT INFORMATION
RECREATION INFORMATION
REGULATORY PERMIT PROGRAM
VOLUNTEERS
WATER SAFETY INFORMATION
ARMY & CORPS LINKS
FEDERAL JOBS

Engineer Update
(HQ Newsletter)

October 2009 Pacesetter

Opens a PDF file from Tulsa District Library

Historical Copies
| Tulsa District Records |
| Pacesetters |

Tulsa District Project Update

Library

eNews from the Tulsa District

View Past eNews

Eagles galore at Kaw

Good numbers of bald eagles are in the area, and viewing is good at Kaw Lake. On Monday, Jan. 11, Park Rangers counted 117 bald eagles around the lake. The annual "Ultimate Eagle Watch" put on by the Kaw Lake Association, Oklahoma Department of Wildlife Conservation, and the U.S. Army Corps of Engineers was held Saturday, Jan. 16. ...
more

Two Corps "wonders" are among 24 finalists

The Elk River Hiking Trail at Elk City Lake and Cross Timbers State Park on Toronto Lake have been chosen as finalists in the "8 Wonders of Kansas Geography" contest sponsored by the Kansas Sampler Foundation.

The Elk River Hiking Trail is a National Recreation Trail that is maintained by the Corps of Engineers and many volunteers from the Kansas Trails Council, Friends of FlatRock Foundation, Boy Scouts, and others who have taken a special in ...
more

Bobber in Burlington

The Corps' water safety mascot, Bobber the Dog, was a popular feature of the Burlington, Kan., Christmas Night Parade. Park rangers, Gary Simmons and Kyle Manwaring (aka Bobber), walked alongside the Corps' boat and handed out water safety promotional items. Two volunteers wearing life jackets rode in the boat. ...
more

Supplemental funding means major improvements at Hugo Lake

Returning visitors to Hugo Lake are in for some pleasant surprises thanks to supplemental funding provided in the wake of flooding and ice storms.

Kiamichi Park is home to several completely refurbished campsites and a new handicap-accessible shower/toilet facility. The attractive camping areas have concrete pads, approaches, and picnic areas with new tables and utility shelves. Most importantly, there's water at each site and 50-amp electrica ...
more

Canton's fascinating history

The town of Canton, just south of Canton Lake, takes its name from the old garrison, Cantonment on the Canadian River. Cantonment played an important, though brief, role in the settlement of northwestern Oklahoma. The site, just off the west shore of Canton Lake, is marked by a single building being restored by the Cheyenne-Arapaho Tribes as a reminder of its brief episode in history.

Cantonment was established as a halfway point between Fort R ...
more

Owl Prowl is tradition at Marion Lake

For the past five years, October has been a "hoot" for the fourth graders at Marion Elementary School in Marion, Kan. During the month, the students complete a course of study on owls as part of their science curriculum. Their study unit culminates with a night trip to Marion Reservoir to view owls in the wild.

The students begin their field trip at the Marion Reservoir project office where park rangers present a short program on the types of ...
more

Stimulus Money

$4.6 Billion for Corps' Civil Works Program

US Army Corps of Engineers
RECOVERY ACT SITE

Copies of the solicitation and amendments are available by INTERNET ACCESS ONLY. All solicitation documents will be posted through the Army's Single Face to Industry (AFSI) to the Federal Business Opportunity (FBO) website at: http://www.fbo.gov

List Of Tulsa District Projects
(List subject to change, project details not available at this time.)

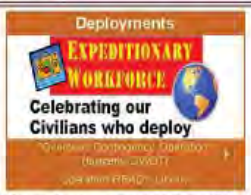
Read more on the USACE web site.

Gulf Region Division's Opportunities

The U.S. Army Corps of Engineers is inviting Corps employees, those of other federal agencies, and those from the private sector to consider serving our country as a civilian in GRD's South District.

Important work is being conducted to rebuild Iraq's infrastructure and a variety of specialties are required.

READ MORE



- Mr. Mike Redemann, RETURNED in Afghanistan
- Mr. Patrick Mclaughlan, RETURNED from Iraq
- Mr. Russell Holeman, RETURNED from Afghanistan
- Ms. Melissa George, RETURNED from Iraq
- Maj. Lora Carroll., RETURNED from Afghanistan
- Mr. Victor Sears, RETURNED from Afghanistan
- Mr. Dan McPherson, RETURNED from Afghanistan
- Ms. Debra Christie, RETURNED from south Texas
- Mr. George Lumley, RETURNED from Afghanistan – New postcard Feb. 8, 2009
- Mr. James Goff, RETURNED from Iraq
- Ms. Vicky Cummings, RETURNED from Iraq
- Ms. Dora Karnes, RETURNED from Afghanistan
- Mr. Mike Abate, RETURNED from Iraq. New postcard added May 16, 2009. Card added June 5, 2009. Card added June 17 and another added June 18, 2009. Card added July 30, 2009.
- Mr. Rory Wales, RETURNED from Iraq

Added to eLibrary

- Implementation Guidance for Section 3137 of the Water Resources Development Act of 2007 (WRDA 2007) - Waurika Lake, Oklahoma
- October 2009 Pacesetter

Public Comments Wanted

DRAFT - Environmental Assessment - Optima Lake

For updated project information, access our web site at:
http:\\www.swt.usace.army.mil
or call 918-669-7366